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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,459	12/12/2003	Evan Kirshenbaum	200207642-1	9694
22879	7590	09/11/2007	EXAMINER	
HEWLETT PACKARD COMPANY			WONG, LUT	
P O BOX 272400, 3404 E. HARMONY ROAD			ART UNIT	PAPER NUMBER
INTELLECTUAL PROPERTY ADMINISTRATION			2129	
FORT COLLINS, CO 80527-2400			MAIL DATE	DELIVERY MODE
			09/11/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/734,459	KIRSHENBAUM, EVAN
	Examiner Lut Wong	Art Unit 2129

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 24 July 2007.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-30 is/are pending in the application.
  - 4a) Of the above claim(s) 11-20 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-10 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.
 

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date: _____   | 6) <input type="checkbox"/> Other: _____                          |

Art Unit: 2129

### **DETAILED ACTION**

This office action is responsive to an AMENDMENT entered Jul 24, 2007 for the patent application 10/734459

The Office Action of Jun 25, 2007 is fully incorporated into this Office Action by reference.

#### ***Status of Claims***

Claims 1-10 are pending. Claims 11-30 have been withdrawn.

#### ***Response to Arguments***

Applicant's election with traverse of claims 1-10 in the reply filed is acknowledged. The traversal is on the ground(s) that the Examiner has not provided reasonable examples that recite material differences between the groups of claims. This is not found persuasive because

1) the means for performing recited functions are software modules (see pg. 13 of spec). As such, the system of claim 29 is a software system. It is well known in the art that software can be implemented in many materially different programming language, such as C++ or C. As such the method of claims 1-10 can be practiced by materially different apparatus (i.e. different implementation).

2) Even if the system is not being interpreted as software system, the method can still be practiced by materially different apparatus. The system as shown in Fig. 4a

Art Unit: 2129

and 4b is a single processor system. The method can be practiced with multi processors system.

3) The requirement is still deemed proper and is therefore made FINAL.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

Claim 1 recites "operating a candidate solution on a particular training case" and then "the credibility rating indicating a proficiency level of the candidate solution at solving training cases". Applicant switches from a singular to plural cases suggested either 1) there is a typo or 2) something is missing to connect the jumps. Clarification or correction is required.

Any claim not specifically addressed, above, is being rejected as incorporating the deficiencies of a claim upon which it depends.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1-2, 4, 6-10 are rejected under 35 U.S.C. 102(b) as being anticipated**

**by Evan Kirshenbaum (“Modeling Disk Arrays Using Genetic Programming”).**

**Examiner Notes (EN) and related citations are denoted in parenthesis.**

Claim 1. Evan anticipates a processor-based method for determining difficulty measures for training cases used in developing a solution to a problem, comprising: providing a set of training cases having respectively associated difficulty measures (See e.g. pg. 3 on training case and fitness measure); operating a candidate solution on a particular training case (See e.g. pg. 3 on obtaining fitness score); determining a performance measure of the candidate solution operating on the selected training case (See e.g. pg. 3 on the fitness score obtained); determining a credibility rating of the candidate solution (See e.g. pg. 3 on winner selection. See also section 4.4), the credibility rating indicating a proficiency level of the candidate solution at solving training cases; and modifying the difficulty measure of the particular training case based on the performance measure of the candidate solution operating on particular training case and the credibility rating of the candidate solution (See e.g. pg. 3 on GP runs and fig. 3. EN: *the fitness measure converges is due to improvement in each generation. Hence the difficulty measure of each case must be modified.*)

Claim 2. The method of claim 1, wherein determining the credibility rating comprises: selecting one or more training cases from the set of training cases based on

the difficulty measures of the one or more training cases (selecting tournament cases. See e.g. pg. 3 3<sup>rd</sup> paragraph where it states "Each candidate was presented with a set of ten cases drawn from the complete set of training cases"); determining performance measures of the candidate solution operating on each of the one or more training cases (the fitness score of the candidate. See e.g. pg. 3 3<sup>rd</sup> paragraph where it states "If it did sufficiently well on those cases, it was presented with another set of ten, and so on until it had seen the full set of training cases. "Sufficiently well" for this experiment was defined as scoring within a "hit interval" on 90% of the cases seen."); and computing the credibility rating based on the performance measures of the candidate solution operating on each of the one or more training cases (Winner selection. EN: the credibility rating is used to determine winner. See e.g. pg. 6 section 4.4 1<sup>st</sup> paragraph where it states "but winners were selected based on overall performance of the candidates on all of the training cases").

Claim 4. The method of claim 1, wherein providing the set of training cases having respectively associated difficulty measures comprises initializing a difficulty measure of each training case in the set of training cases to a predetermined value (See e.g. pg. 3 on initial generation. EN: each training case must be initialized with a default value or some pre-set value).

Claim 6. The method of claim 1, wherein: providing the set of training cases comprises associating each training case in the set of training cases with a target output (throughput prediction. See e.g. abstract and pg. 3 on "hit interval"); operating the candidate solution on the particular training case comprises obtaining an output from

the candidate solution operating on the particular training case (the predicted throughput. See e.g. table 4 and pg. 3 section 3); and determining the performance measure of the candidate solution operating on the particular training cases comprises comparing the candidate solution output to a target output of the particular training case (the fitness measure. See e.g. Table 4 and pg. 3 where it states “fitness measure was the mean relative error over the training cases presented to the candidate during its training period”).

Claim 7. The method of claim 6, wherein comparing the candidate solution output to the target output of the particular training case comprises calculating a value corresponding to a deviation between the candidate solution output and the target output of the particular training case (the relative error. See e.g. Table 4 and pg. 3 where it states “fitness measure was the mean relative error over the training cases presented to the candidate during its training period”).

Claim 8. The method of claim 1, wherein modifying the difficulty measure of the particular training case comprises modifying the difficulty measure based on a weighted average of the performance measure and a previous value of the difficulty measure (See e.g. Table 4 and pg. 3 on “weighted average”).

Claim 9. The method of claim 8, wherein a weight of the weighted average is based on the credibility rating and a base learning rate (See e.g. pg. 3 section 3.1 where it states “The “weighted average” column shows the mean of the subset means normalized over the number of cases in each subset”).

Claim 10. The method of claim 1, wherein modifying the difficulty measure comprises maintaining the difficulty measure within a predetermined interval (See e.g. pg. 3 on confidence interval).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Evan Kirshenbaum (“Modeling Disk Arrays Using Genetic Programming”)**

Claim 3: Evan teaches a set of ten cases drawn from the complete set of training cases. Evan fails to particularly call for wherein the cases do not include the particular training case. However, there are only two possibilities in selecting other cases, either with or without the particular training case. Thus, it would have been obvious to a person of ordinary skill in the art to try without the particular training case in an attempt to provide a better selection.

Claim 5: Evan fails to particularly call for predetermined value is a maximum value. However, there are finite numbers of initialization value: min, max, or value in between. It is well known in the art to initialize with max value based on implementation

Art Unit: 2129

needs or preference. Thus, it would have been obvious to a person of ordinary skill in the art to use a max value, whichever that fits.

### Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lut Wong whose telephone number is (571) 270-1123. The examiner can normally be reached on M-F 7:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vincent David can be reached on (571) 272-3080. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Lut Wong/  
Patent Examiner, AU 2129

  
DAVID VINCENT 9/4/07  
SUPERVISORY PATENT EXAMINER